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HEWLETT-PACKARD COMPANY  
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EXAMINER

KHOSHNOODI, NADIA

ART UNIT PAPER NUMBER

2133

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/728,292

Applicant(s)

YEN ET AL.

Examiner

Nadia Khoshnoodi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 and 20-25 is/are pending in the application.
- 4a) Of the above claim(s) 17-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/1-06-2005</u> | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Amendment***

Claims 17-19 have been cancelled. Applicant's arguments/amendments with respect to amended claims 1, 7, 16, & 20, previously presented claims 2-6 & 8-15, and newly presented claims 21-25 filed January 6, 2005 have been fully considered and therefore the claims are rejected under new grounds. The Examiner would like to point out that this action is made final (See MPEP 706.07a).

Claim 16 has an improper status identifier of "(original)," where claim 16 has obviously been amended and therefore should have the proper status identifier "(currently amended)."

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 16, and 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,751,352 in view of Epstein, United States Patent No. 6,601,172.

Although the conflicting claims are not identical, they are not patentably distinct from each other because independent claim 1 of patent 6,751,352 substantially teaches a visually significant barcode system comprising: an encoding module configured to receive a message and a base image and to modulate the base image with a graphical encoding of the message to produce a visually significant barcode having a message encoded therein by dividing the base image into multiple image areas, segmenting image areas to be encoded into multiple groups based on pixel values in the image areas to be encoded, and encoding the segmented image areas with sets of two-dimensional code patterns to graphically encode the message in the visually significant barcode, wherein each set of code patterns encodes a respective corresponding group of image areas.

Not explicitly disclosed is generating a corroborative signed message from the information to be encoded. However, Epstein teaches that a digital signature can be used in order to ensure that information, i.e. message, has not been altered or revised and that the source can be authenticated. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the visually significant barcode system disclosed in U.S. Patent No. 6,751,352 to generate a corroborative signed message from the information to encoded in order to ensure the data's integrity, as well as to be able to authenticate the source. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Epstein in col. 1, lines 10-45 and col. 2, lines 24-38.

***Claim Rejections - 35 USC § 103***

I. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 1-5, 10-16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein, U.S. Patent No. 6,601,172 and further in view of Kato, JP Pub. No. 08-185451 and Iizuka, U.S. Patent No. 5,153,928.

As per claim 1:

Epstein teaches generating a corroborative signed message from information to be encoded (col. 2, lines 24-60). Not explicitly disclosed by Epstein is modulating a base image with a graphical encoding of the signed message to produce a marked image by dividing the base image into multiple image areas, segmenting at least some of the image areas into multiple groups based on pixel values in the image areas, and encoding the segmented image areas with sets of two-dimensional code patterns to graphically encode the corroborative signed message in the marked image, wherein each set of code patterns encodes a respective corresponding group of image areas.

However, Kato teaches that handwritten characters can be added to the graphical encoding of the signed message to produce a marked image. Furthermore, Kato teaches that the base image, i.e. handwritten characters, is modulated in order to store it properly. Yet further, Kato also discloses encoding the segmented image area with a two-dimensional bar code to

result in graphically encoding the corroborative signed message in the marked image, wherein each set of code patterns encodes a respective corresponding group of image areas, which is based on the pixel segmentation. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to include modulating a base image with a graphical encoding of the signed message to produce a marked image and encoding the segmented image areas with sets of two-dimensional code patterns to graphically encode the corroborative signed message in the marked image, wherein each set of code patterns encodes a respective corresponding group of image areas. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Kato in paragraphs 12, 14, and 18-20.

However, Iizuka teaches dividing the base image into multiple image areas. Furthermore, Iizuka also teaches that searching occurs based on detecting image areas segmented into multiple groups based on pixel values in the image areas. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to include a marked image by first dividing the base image into multiple image areas and also segment some of the image areas based on the pixel value in the image areas. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Iizuka in col. 2, lines 50-55 and col. 2, line 55 – col. 3, line 26.

As per claim 2:

Epstein, Kato, and Iizuka substantially teach the method of claim 1. Furthermore,

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Epstein teaches a server encrypts hash of combination using server's private key to form server's signature for second compression (fig. 3b, element 247).

As per claim 3:

Epstein, Kato, and Iizuka substantially teach the method of claim 2. Furthermore, Epstein teaches a one-way hash of the document is produced and the hash is encrypted using a private key of the owner of the document to form a so-called digital signature (col. 1, lines 18-21).

As per claim 4:

Epstein, Kato, and Iizuka substantially teach the method of claim 3. Furthermore, Epstein teaches a server encrypts hash of combination using server's private key to form server's signature for second compression (fig. 3b, element 247).

As per claim 5:

Epstein, Kato, and Iizuka substantially teach the method of claim 3. Furthermore, Epstein teaches receiving a time-stamp with a digital time and a notary's signature (col. 7, lines 20-24).

As per claim 10:

Epstein, Kato, and Iizuka substantially teach the method of claim 1. Not explicitly disclosed by Epstein, Kato, and Iizuka is extracting the signed message from the marked image. However, Epstein mentions that in one embodiment that an image, which is the message in this instance, is signed and combined with some kind of identification tag/field before storing. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein, Kato, and Iizuka to extract the signed message from the marked image of the message when retrieving because these are steps opposite to those used for encoding/signing the message. This modification would have been obvious because a person

having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Epstein in col. 4, lines 18-58.

As per claim 11:

Epstein, Kato, and Iizuka substantially teach the method of claim 10. Furthermore, Epstein teaches a module includes apparatus to hash the time stamp and decrypt the notary's signature using the notary's public key and compare the results to determine the origin of the time stamp and that the contents have not been altered (col. 7, lines 24-28).

As per claim 12:

Epstein, Kato, and Iizuka substantially teach the method of claim 10. Not explicitly disclosed by Epstein, Kato, and Iizuka is further comprising decoding the extracted signed message to be decoded. However, Epstein teaches decoding the signed message to produce a decoded message. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein, Kato, and Iizuka to extract the signed message and decode it in order to obtain the information. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Epstein in col. 2, lines 38-63.

As per claim 13:

Epstein, Kato, and Iizuka substantially teach the method of claim 12. Furthermore, Epstein teaches extracting from the decoded message an encrypted original cryptographic hash and the encoded information (col. 2, lines 38-63).

As per claim 14:

Epstein, Kato, and Iizuka substantially teach the method of claim 13. Furthermore,



Epstein teaches decrypting the encrypted original cryptographic hash with a public key (col. 2, lines 60-63).

As per claim 15:

Epstein, Kato, and Iizuka substantially teach the method of claim 14. Furthermore, Epstein teaches that one way the data can be authenticated is by extracting information by producing a new cryptographic hash from the extracted information, and comparing the new cryptographic hash with the original cryptographic hash (col. 6, lines 23-38).

III. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein U.S. Patent No. 6,601,172, Kato JP Pub. No. 08-185451 and Iizuka U.S. Patent No. 5,153,928, as applied to claim 1 above, and further in view of Hayosh U.S. Patent No. 6,611,598.

As per claim 6:

Epstein, Kato, and Iizuka substantially teach the method of claim 1. Not explicitly disclosed by Epstein, Kato, and Iizuka is wherein the signed message includes a public key certificate. However, Hayosh teaches a digital certificate in the two-dimensional bar code produced by the public key digital signature system. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein, Kato, and Iizuka for the signed message to include a public key certificate in order to provide better authentication means. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Hayosh in col. 8, lines 56-59.

IV. Claims 7-9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein U.S. Patent No. 6,601,172 and further in view Sabourin et al, *Off-line Signature*

*Verification by Local Granulometric Sized Distributions*, and Wang et al. U.S. Patent No. 5,490,217.

As per claim 7:

Epstein teaches generating a corroborative signed message from information to be encoded (col. 2, lines 24-60). Not explicitly disclosed by Epstein is modulating a base image with a graphical encoding of the signed message to produce a marked image, wherein the base image includes an image of a handwritten signature.

However, Sabourin et al. teach modulating a base image where the base image includes an image of a handwritten signature. Therefore it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to include modulating a base image, wherein the base image includes an image of a handwritten signature. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Sabourin et al. (page 977 col. 1 – page 978, col. 1 and page 979 col. 1 – page 980 col. 1).

Not explicitly disclosed by Epstein or Sabourin et al. is modulating a base image with a graphical encoding of the signed message to produce a marked image. However, Wang et al. teach a handwritten signature encoded in an image code. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein and Sabourin for using a handwritten signature to modulate the handwritten signature with a graphical encoding of the signed message to produce a marked image. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Wang et al.,

col. 5, lines 36-67.

As per claim 8:

Epstein, Sabourin et al., and Wang et al. substantially teach the method of claim 7.

Furthermore, Sabourin et al. teach vectorizing the handwritten signature image (page 980, col. 1 – page 981, col. 2).

As per claim 9:

Epstein, Sabourin et al., and Wang et al. substantially teach the method of claim 8.

Furthermore, Sabourin et al. teach obtaining a set of base control points for the vectorized handwritten signature image (page 46, col. 2). Not explicitly disclosed is encoding the information by displacing the base control points to obtain a marked set of control points from which the marked image is produced. However, Wang et al. teach that the handwritten signature is encoded in the image code and therefore the points would have to be displaced in order to do that. Therefore it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to include displacing the control points in order to encode the signature image. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Wang et al., col. 5, line 36 - col. 6, line 8.

As per claim 21:

Epstein, Sabourin et al., and Wang et al. substantially teach the method of claim 8. Not explicitly disclosed by Epstein, Sabourin et al., or Wang et al. is wherein vectorizing comprises fitting a sequence of spline curves to the handwritten signature. However, Sabourin et al. teach that a signal activates the retina for the area containing the signature and also transforming the

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areas containing portions of the signature with different operations. Therefore it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein, Sabourin et al., and Wang et al. to use spline curves as the operation to get the right shape of the signature image. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Sabourin et al. (page 977 col. 1 – page 978 col. 1 and page 980 col. 1 – page 981 col. 1).

V. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein U.S. Patent No. 6,601,172, Kato JP Pub. No. 08-185451 and Iizuka U.S. Patent No. 5,153,928, as applied to claim 1 above, and further in view of Wang et al. U.S. Patent No. 5,490,217.

As per claims 22 and 24:

Epstein, Kato, and Iizuka substantially teach the method of claim 16. Furthermore, Kato teaches the base image includes an image of the handwritten characters, and the encoder is configured to vectorize the handwritten character image (paragraphs 12 –14). Not explicitly disclosed by Epstein, Kato, and Iizuka is a handwritten signature image. However, Wang et al. teach using a handwritten signature. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein, Kato, and Iizuka for using a handwritten signature to incorporate a person's personal information in the base image. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Wang et al., col. 5, lines 36-67.

As per claim 23 and 25:

Epstein, Kato, Iizuka, and Wang et al. substantially teach the method of claim 22. Furthermore, Kato teaches obtaining base control points for vectorizing the handwritten image (paragraphs 12-15). Not explicitly disclosed by Epstein, Kato, Iizuka, or Wang et al. is encoding the information by displacing the base control points to obtain a marked set of control points from which the marked image is produced. However, Kato teaches that there are several coordinates in order to correctly map the signature. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein, Kato, Iizuka, and Wang et al. to encode the information by displacing the coordinates taken of the handwritten image. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Kato in paragraphs 12-15.

*\*References Cited, Not Used*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Sabourin et al., *An Extended-Shadow-Code Based Approach for Off-line Signature Verification. I. Evaluation of the Bar Mask Definition*
2. Sabourin et al., *Pattern Spectrum as a Local Shape Factor for Off-line Signature Verification*

The above references have been cited because they are relevant due to the manner in which the invention has been claimed.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadia Khoshnoodi whose telephone number is (571) 272-3825. The examiner can normally be reached on M-F: 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Nadia Khoshnoodi  
Examiner  
Art Unit 2133  
May 27, 2005

NK



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